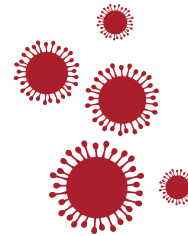


Antimicrobial Resistance (AMR)

Antimicrobial resistance (AMR) is a top public health threat and national security issue. AMR occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines or antimicrobial agents, making infections more difficult or impossible to treat and increasing the risk of disease spread, severe illness and death. The overuse of antimicrobial agents in medicine, production of food animals and crop protection have caused increasing resistance to those agents.

ASM and its members are tackling AMR through better understanding of how resistance develops, AMR surveillance, prevention and development of countermeasures. It is a complex problem that requires multifaceted solutions. Urgent global action is needed across multiple settings and industries to protect people and animals from the threat of AMR.

In the U.S., the CDC estimates that antimicrobial resistance caused:



**2.8 million
infections**

**4.8 billion
in medical costs**

<https://www.hhs.gov/sites/default/files/carb-national-action-plan-2020-2025.pdf>

<https://www.cdc.gov/antimicrobial-resistance/media/pdfs/2019-ar-threats-report-508.pdf>



Sustained investment in basic, translational and clinical research is needed to better understand how microbes become resistant, and develop more precise clinical diagnostics, novel therapeutics and vaccines.



Support dedicated prevention and infection control efforts in the community and in health care settings. Better infection control in hospitals has reduced deaths from antibiotic-resistant infections in this setting by 28% since 2013.



Provide incentives for better stewardship of the antimicrobials currently available to patients, and promote policies to develop market-based incentives to foster the development and marketing of new antibiotics, both for humans and animals. We know that improving conscientious antibiotic use reduces the selective pressure on microorganisms, slowing the development of resistance.



Boost national and global AMR surveillance to inform action plans to combat antimicrobial resistant organisms and evaluate the impact of these interventions, including nontraditional approaches like wastewater surveillance.



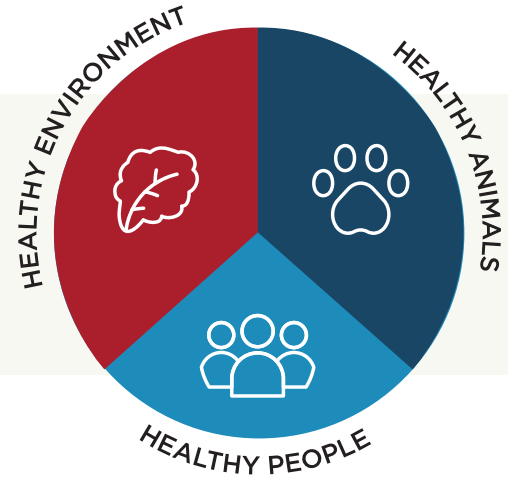
Support expanded use of genomics technologies against AMR pathogens, including broader application to environmental, veterinary and agricultural research. Deploying technologies such as advanced molecular detection funded by CDC leads to more rapid and accurate diagnosis and treatment. These genomic technologies should be well funded, accessible and coordinated across federal government agencies.



Promote and assist efforts in allied countries to develop trusted partnerships to assess AMR threats. AMR does not recognize geopolitical borders and addressing AMR will require a coordinated global approach and investments, particularly in low- and middle-income countries.

Antimicrobial Resistance (AMR)

ASM supports the One Health approach to addressing AMR



U.S. Government Role: A Multi-Agency Effort



The Centers for Disease Control and Prevention (CDC) is charged with implementing activities outlined in the U.S. National Action Plan for Combating Antibiotic-Resistant Bacteria. Through its Antibiotic Resistance Solutions Initiative, CDC invests in national infrastructure to detect, respond, contain and prevent resistant infections across health care settings, food and communities. Through these investments, CDC is transforming how the nation and the world respond to antibiotic resistance. The CDC's Center for Global Health detects, prevents and responds to infectious disease threats that originate outside U.S. borders, including AMR.



USAID's global health security program provides technical assistance to partner countries to prevent and respond to rising rates of AMR in resource-limited settings.



The National Institutes of Health (NIH), including the National Institute of Allergy and Infectious Diseases (NIAID), supports basic, translational and clinical research to better understand how microbes develop and pass on resistance genes. They also support the development of new vaccines and faster diagnostics. NIAID's research program also focuses on ways to prevent infections and developing new antibiotics effective against drug-resistant microbes.



The Defense Health Program at the Department of Defense funds research and development to prevent, mitigate and treat drug-resistant bacteria in wounds. It also supports the MultiDrug Resistance Surveillance Network, which collects and characterizes bacterial isolates.



The U.S. Department of Agriculture (USDA) oversees the appropriate use of antibiotics in agriculture. Research funded by the USDA is essential to understanding pathogen resistance mechanisms and antibiotic alternatives, as well as improving animal management and husbandry practices.



The Food and Drug Administration (FDA) is responsible for approval of all new antimicrobials. FDA receives designated funding to address antibiotic resistance through several programs including the National Antimicrobial Resistance Monitoring System (NARMS).



The Agency for Healthcare Research and Quality (AHRQ) supports research and interventions that improve antibiotic stewardship in health care settings.



The Biomedical Advanced Research and Development Authority (BARDA) works to secure our nation from threats of all kinds, including AMR. BARDA's public-private partnership model is uniquely positioned to work with industry partners to finance research and development, where traditional commercial market incentives do not exist, that will bring safe and effective antimicrobial products to market.